

Figure 1.

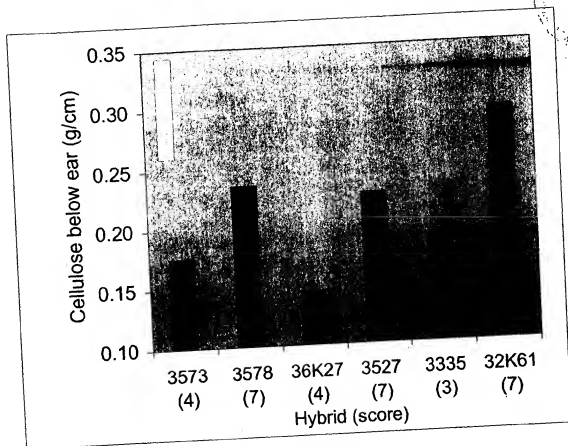


Figure 2

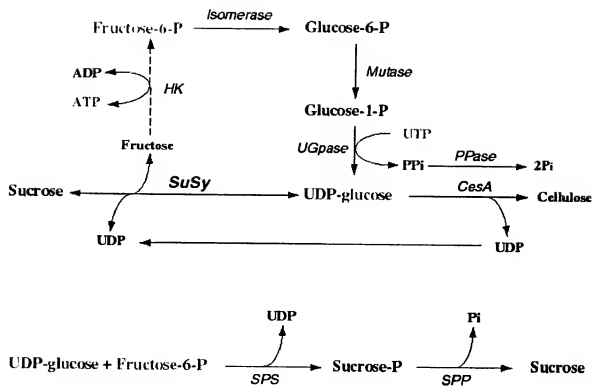


Figure 3.

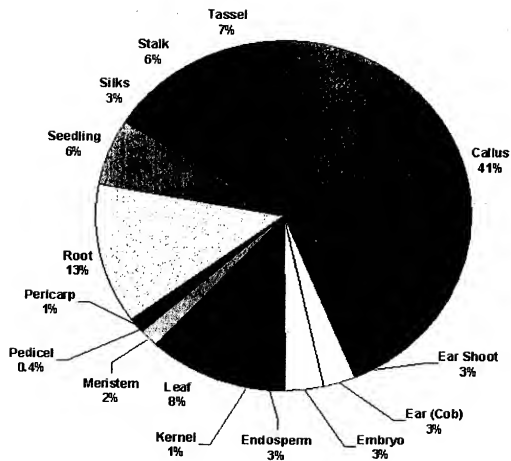
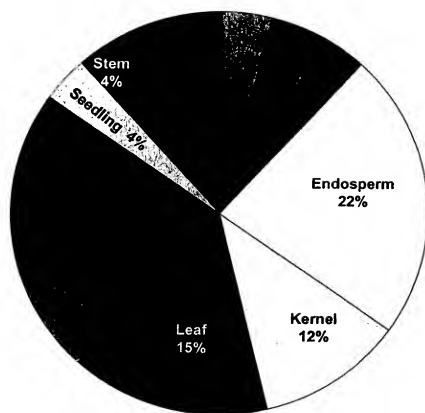


Figure 4.



**Figure 5**

Allele 1: CACCCGG-mu-AGATTG

Allele 2: CACC-mu-CGGAGATTG



Figure 6.



Genotype	structural dry matter (% of total dry matter)	cellulose (% of total dry matter)	cellulose (% of structural dry matter)
<i>Sus-1</i> (WT)	63.2	25.2 $\pm$ 0.38	39.9
<i>Sus-1</i> (mutant)	47.3	17.7 $\pm$ 0.34	37.4

Figure 7.

1 50  
Sh1 (1) ----MAAKLTRLHSLRERLGATFSSHPNELIALFSRYVHOGKGMLOQRQ  
Sus1 (1) MGEAGAGDVLRLHSLRERIGDLSLAHPNELVAVPTRLKNLKGKMLQPHQ  
Sus3 (1) -----STHASCGRVEDTLHAHRELVLRLSKYVKNKQKTLQPHH  
Consensus (1) LSRHSLRERIGDTLSAHPNELVALFSRYVN GKGMLQPHQ  
51 100  
Sh1 (46) ILAEFD-ALFSDSKE--KYAPFEDITLRAAQEAIVLPVVALAIRPRPGVN  
Sus1 (51) ILAEVNNATPEAREKLKDGAEEDVLRAAQEAIVLPVVALAIRPRPGVN  
Sus3 (40) ILDALDEVQSGGGA-LAEGPFLDLVLSAQAQEAIVLPVVALAIRPRPGVN  
Consensus (51) ILAEFD AI DADRE LKDGPFEDVLRAAQEAIVLPVVALAIRPRPGVN  
101 150  
Sh1 (93) DYLRVNVSELAVEELSVSEYLAFKELVDGQSNFVLELDFEPFNASFE  
Sus1 (101) EYVRVNVSELAVEELSVPEYLOFKEOLYVEGPNNNFVLELDFEPFNASFE  
Sus3 (89) EYVRVNVHLSVSELTVSEYLREKEELVDGQHNDPYVLELDFEPFNASFE  
Consensus (101) EYVRVNVSELAVEELSVSEYL FKEOLVDGQ N NFVLELDFEPFNASFE  
151 200  
Sh1 (143) RPSLSKSGVGNVFLNRHLLSKLFDKESLYPLNFRHNYKTMLN  
Sus1 (151) RPSLSKSGVGNVFLNRHLLSKLFDKESLYPLNFRHNYKTMLN  
Sus3 (139) RPSLSKSGVGNVFLNRHLLSKLFDKESLYPLNFRHNYKTMLN  
Consensus (151) RPSLSKSGVGNVFLNRHLLSKLFDKESLYPLNFRHNYKTMLN  
201 250  
Sh1 (193) RPSLSKSGVGNVFLNRHLLSKLFDKESLYPLNFRHNYKTMLN  
Sus1 (201) RPSLSKSGVGNVFLNRHLLSKLFDKESLYPLNFRHNYKTMLN  
Sus3 (189) RPSLSKSGVGNVFLNRHLLSKLFDKESLYPLNFRHNYKTMLN  
Consensus (201) RPSLSKSGVGNVFLNRHLLSKLFDKESLYPLNFRHNYKTMLN  
251 300  
Sh1 (243) RPSLSKSGVGNVFLNRHLLSKLFDKESLYPLNFRHNYKTMLN  
Sus1 (251) RPSLSKSGVGNVFLNRHLLSKLFDKESLYPLNFRHNYKTMLN  
Sus3 (239) RPSLSKSGVGNVFLNRHLLSKLFDKESLYPLNFRHNYKTMLN  
Consensus (251) RPSLSKSGVGNVFLNRHLLSKLFDKESLYPLNFRHNYKTMLN  
301 350  
Sh1 (293) YPDTGGQVYVILDOVRALENEMLLRIKQQLDITPKLIVTRLLPDA GT  
Sus1 (301) YPDTGGQVYVILDOVRALENEMLLRIKQQLDITPKLIVTRLLPDA GT  
Sus3 (289) YPDTGGQVYVILDOVRALENEMLLRIKQQLDITPKLIVTRLLPDA GT  
Consensus (301) YPDTGGQVYVILDOVRALENEMLLRIKQQLDITPKLIVTRLLPDA GT  
351 400  
Sh1 (343) TCGORLEKVLCTEHTHLRVFFRNENGLRKWISRFDVWPYLETYDVA  
Sus1 (351) TCGORLEKVLCTEHTHLRVFFRNENGLRKWISRFDVWPYLETYDVA  
Sus3 (339) TCGORLEKVLCTEHTHLRVFFRNENGLRKWISRFDVWPYLETYDVA  
Consensus (351) TCGORLEKVLCTEHTHLRVFFRNENGLRKWISRFDVWPYLETYDVA  
401 450  
Sh1 (393) ETAAELQAFDLIIGNYSDGNLVATLLAHKMGVTCQTAHALEKTKYPN  
Sus1 (401) ETAAELQAFDLIIGNYSDGNLVATLLAHKMGVTCQTAHALEKTKYPN  
Sus3 (389) ETAAELQAFDLIIGNYSDGNLVATLLAHKMGVTCQTAHALEKTKYPN  
Consensus (401) ETAAELQAFDLIIGNYSDGNLVATLLAHKMGVTCQTAHALEKTKYPN  
451 500  
Sh1 (443) SDIYLDKFDSDYHFSQCFADTLAMNHDTPIITSTFQIAGSKDTVGGYE  
Sus1 (451) SDIYWKKFEDHYHFSQCFADTLAMNHDTPIITSTFQIAGSKDTVGGYE  
Sus3 (439) SDIYWKNFDEKYHFSQCFADTLAMNHDTPIITSTFQIAGSKDTVGGYE  
Consensus (451) SDIYWKKFDD YHFSQCFADTLAMNHDTPIITSTFQIAGSKDTVGGYE  
501 550  
Sh1 (493) SHIAFTLPLGYRVVHGIDVDPKFNIVSPGADMSIYFPHTKAKRLTSLH  
Sus1 (501) SHIAFTLPLGYRVVHGIDVDPKFNIVSPGADMSIYFPHTKAKRLTSLH  
Sus3 (489) SHIAFTLPLGYRVVHGIDVDPKFNIVSPGADMSIYFPHTKAKRLTSLH  
Consensus (501) SHIAFTLPLGYRVVHGIDVDPKFNIVSPGADMSIYFPHTKAKRLTSLH

Figure 8a



551 600

Sh1 (543) PETEELIYSDVENSEHKFVLKDKKKPTLFSMARLDRVKNTGLVEMYGKN  
 Sus1 (551) PETEELLYSQTENTEHKFVLNDRNKPILFSMARLDRVKNTGLVELYGN  
 Sus3 (539) GSTENLIIMDPEONDEHIGHLDRSKPTLFSMARLDRVKNTGLVEMYGKN  
 Consensus (551) PETEELIYS ENSEHKFVL DR KPIILFSMARLDRVKNTGLVELYGN  
 601 650

Sh1 (593) ARRLRELNLVTIVAGDHGK-ESKDREEQAEFKKMYSLTDEYKIKGHIRWIS  
 Sus1 (601) KRRLQELVNLVVVCGDHGN-PSKDKEEQAEFKKNFDLIEQYNLNGHIRWIS  
 Sus3 (589) AKRLRLVNLVVVAGYNDVNKESKDREEIAEIEKMESLEKTHNIFGOFRWIS  
 Consensus (601) ARRLRELNLVVVAGDHG SKDREEQAEFKKMHDLD YNL GHIRWIS  
 651 700

Sh1 (642) AQMNRVRNGELYRYICDTKGAFVQPAFYEAFLTLVLESMTCGLPTIARCH  
 Sus1 (650) AQMNRVRNGELYRYICDTKGAFVQPAFYEAFLTLVLEAMTCGLPTFRAB  
 Sus3 (639) AQTNBARNGELYRYIADTHGAFVQPALYEAFGLTVLEAMTCGLPTFALH  
 Consensus (651) AQMNRVRNGELYRYICDTKGAFVQPAFYEAFLTLVVEAMTCGLPTFAT H  
 701 750

Sh1 (692) GGNVAVVDLSDLDDEYHSDKADDLVNFNKKKADSSADETFOGQ  
 Sus1 (700) GGNVAVVHSDLDDEYQGDKEALLVDNKKKQAESSHASKDEHOGQ  
 Sus3 (689) GGNVAVVEHSDLDDEYHSDKADDLVNFNKKKQADSHVNSGQ  
 Consensus (701) GGPAEIIIVHGVSGFHIDPYH DKAA LLVDFFDKCKADPSHW ISQGLL  
 751 800

Sh1 (742) QRYYVAVLSDLDDEYHSDKADDLVNFNKKKADSSADETFOGQ  
 Sus1 (750) QRYYVAVLSDLDDEYHSDKADDLVNFNKKKQADSHVNSGQ  
 Sus3 (739) QRYYVAVLSDLDDEYHSDKADDLVNFNKKKQADSHVNSGQ  
 Consensus (751) QRYYVAVLSDLDDEYHSDKADDLVNFNKKKQADSHVNSGQ  
 801 817

Sh1 (792) SLASQVPSFD-----  
 Sus1 (800) SLASTVPLAIDGEPSSK  
 Sus3 (789) ELAKTVPLAID-QPQ--  
 Consensus (801) SLASTVPLAID P

Figure 8b



551 600

Sh1 (540) CTAAACCCACACCTGTCTCAAGTGTCTCCAGGACAAAGGAGATTGTA  
 Sus1 (520) CTCAACAGGCACCTGTCTCAAGCTCTTCCATCAAGAGGAGGATTA  
 Sus3 (458) CTCAACCCACACCTGTCTCAATCATGTTCCGCAACAGGGATTCTTGG  
 Consensus (551) CTCAACCCACACCTGTCTCAAG GTTCTCA GACAAGGAGAGCTTGA  
 601 650

Sh1 (590) CCCCTTGTCTGAACCTTCCTCAAGGCTCTA TACTACAAGGCACGAGCTGA  
 Sus1 (570) CCCCTTGTCTCAACTTCTCTTCCGCGCAACTACAAGGGGATGACATGA  
 Sus3 (508) GCGCTGTCTGATTTCTCTCCGTGCGACGCGGACAAGGGGATGTTATGA  
 Consensus (601) CCCCTTGTCTGAACCTTCTCCG GCCACAACTACAAGGGGA GAC ATGA  
 651 700

Sh1 (640) TGTGAATGACAGAATCCAAAGCCTTCTGGTCTCCAATGATGCTTGA  
 Sus1 (620) TGTGAATGACAGAATCCGCTCTCTCAAGTGTGCTGCTGAG  
 Sus3 (558) TGTGAATGACAGAATCCAAAGCTTGGGAGCTTCACTCTGTGCTGACC  
 Consensus (651) TGTGAATGACAGAATCCAAAGCCT GTGGTCT CAATCTGCGCTGAG  
 701 750

Sh1 (690) AAGGCTGAGGAGACCTGTCTCAAGTGTCTCAAGGAGCTTCTGAG  
 Sus1 (670) AAGGCTGAGGAGACCTGTCTCAAGTGTCTCAAGGAGCTTCTGAG  
 Sus3 (608) AAGGCTGAGGAGACCTGTCTCAAGTGTCTCAAGGAGCTTCTGAG  
 Consensus (701) AAGGCTGAGGAGACCTGTCTCAAGTGTCTCAAGGAGCTTCTGAG  
 751 800

Sh1 (740) GATCAAGTCTGAGGAGACCTGTCTCAAGTGTCTCAAGGAGCTTCTGAG  
 Sus1 (720) GATCAAGTCTGAGGAGACCTGTCTCAAGTGTCTCAAGGAGCTTCTGAG  
 Sus3 (658) GATCAAGTCTGAGGAGACCTGTCTCAAGTGTCTCAAGGAGCTTCTGAG  
 Consensus (751) ATTT ACCATAGGTTCCAAGAGCTTGGCTTGGAGAAGGGTGGGGTGATA  
 801 850

Sh1 (790) GTTCAAGGAGCTTCTGAGGAGACCTGTCTCAAGTGTCTCAAGGAGCTTCTGAG  
 Sus1 (770) GTTCAAGGAGCTTCTGAGGAGACCTGTCTCAAGTGTCTCAAGGAGCTTCTGAG  
 Sus3 (708) GTTCAAGGAGCTTCTGAGGAGACCTGTCTCAAGTGTCTCAAGGAGCTTCTGAG  
 Consensus (801) C GC AAGCGTGTCTGGA AC ATCCACCTCCTTCT GACCTCCTTGAG  
 851 900

Sh1 (840) GCGTCAAGGAGCTTCTGAGGAGACCTGTCTCAAGTGTCTCAAGGAGCTTCTGAG  
 Sus1 (820) GCGTCAAGGAGCTTCTGAGGAGACCTGTCTCAAGTGTCTCAAGGAGCTTCTGAG  
 Sus3 (758) GCGTCAAGGAGCTTCTGAGGAGACCTGTCTCAAGTGTCTCAAGGAGCTTCTGAG  
 Consensus (851) GCCCAGATCC TCCACCTGGAGAAGTCTCTTGGAAACGATCCCCATGAT  
 901 950

Sh1 (890) GTTCAAGGAGCTTCTGAGGAGACCTGTCTCAAGTGTCTCAAGGAGCTTCTGAG  
 Sus1 (870) GTTCAAGGAGCTTCTGAGGAGACCTGTCTCAAGTGTCTCAAGGAGCTTCTGAG  
 Sus3 (808) GTTCAAGGAGCTTCTGAGGAGACCTGTCTCAAGTGTCTCAAGGAGCTTCTGAG  
 Consensus (901) GTTCAAGGAGCTTCTGAGGAGACCTGTCTCAAGTGTCTCAAGGAGCTTCTGAG  
 951 1000

Sh1 (940) TGTCTGATACCTGACAGTGTCTCAAGTGTCTCAAGTGTCTCAAGTGTCTGAG  
 Sus1 (920) TGTCTGATACCTGACAGTGTCTCAAGTGTCTCAAGTGTCTCAAGTGTCTGAG  
 Sus3 (858) TATTAGGCTTCCGAGACAGGAGGACAGATCTCTATATCTAGTGA  
 Consensus (951) T TT GG TACCTTGACAC GGAGG CAGGTTGTCTACAT CTGATCAA  
 1001 1050

Sh1 (990) GTCCGTGCTTTGGAGAATGAGATGTTCTGAGGATTAAGCAGCAAGGCTT  
 Sus1 (970) GTCCGTGCTTTGGAGAATGAGATGTTCTGAGGATTAAGCAGTGTGCTT  
 Sus3 (908) GTCCGTGCTTTGGAGAATGAGATGTTCTGAGGATTAAGCAGCAAGGCTT  
 Consensus (1001) GTCCGTGCT TGGAGAATGAGATGTTCTGAGGAT AAGCAGCAAGG CT

Figure 9b

1100

Sh1 (1040) TGATATCACTCGAAGATCCTCATTTTACCAGGCTGTCTGTAAGATGTG  
 Sus1 (1020) TGACATCACGCCGAAGATCCTTATTGTACACAGGTTGCCCGGATGCGA  
 Sus3 (958) TGATGTTTCCCAAGATTTCTATTGTACTCGCTGAAAGAA  
 Consensus (1051) TGATATCAC CGAAGATCCTCATTTGTTACCAGGCTG T CCTGATGCAA

1150

Sh1 (1090) CTGGGACTACCTGCGGTCAGCGGCTGAGAGGTCATTTAGTATAGATG  
 Sus1 (1070) CTGGCACCACCTGTGGCCAGCCCTTGAGAGGTTCTTGGCCATGAGG  
 Sus3 (1008) AAGGAACATCATGGAATATGCGGCTTGAAGAGAAATACGTAAGAACCTTT  
 Consensus (1101) CTGG AC AC TGGCGTCAGCGGCTTGAGAAAGTCATTGG AC GAGCAC

1200

Sh1 (1140) ACAGCATGATTCGCGTTGCTTACGATGCGATGCGCTGCTGCTGCTG  
 Sus1 (1120) TGCCATATGCTTTCGCGTGCATGATGATGACAGAGACGGAATGCGATG  
 Sus3 (1058) AGTTACATATTAAGATTCGCTGCTGATGCTGCTGCTGCTGCTGCTGCTG  
 Consensus (1151) AC ACATC TTGCGTTCCCTTCAGAAATGAAAATGG ATCCTTGCACAA

1250

Sh1 (1190) GTGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG  
 Sus1 (1170) GTGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG  
 Sus3 (1108) ATGATATGAAATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG  
 Consensus (1201) GTGGATCTC CGATTTGATGCTGCGCCATACCTGGAGACATACACTGAGG

1300

Sh1 (1240) ATGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG  
 Sus1 (1220) TCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG  
 Sus3 (1158) ATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG  
 Consensus (1251) ATGTTGC GTGAAATTGCTG AGAA T CAGGCCAATCCTGACCT ATC

1350

Sh1 (1290) ATTTGGCACTACGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG  
 Sus1 (1270) ATTTGGCACTACGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG  
 Sus3 (1208) ATTTGGCACTACGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG  
 Consensus (1301) ATTTGGAACTACAGTGATGAAACCTTGT GCGTCTTTGCTGCG CACAA

1400

Sh1 (1340) ATTTGGCACTACGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG  
 Sus1 (1320) GATGGGTTTATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG  
 Sus3 (1258) GATGGGATTAACGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG  
 Consensus (1351) GATGGGATTAACGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG

1450

Sh1 (1390) ACCCAACTCGACATCTACTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG  
 Sus1 (1370) ACCCAACTCGACATCTACTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG  
 Sus3 (1308) ATCCAGATTGACACATATTGGAAGATTTGATGATGAGAGAGCTGCTG  
 Consensus (1401) ACCC AACTC GACATCTACTGGAAGAA TTGA GA CAGTACCACCTTC

1500

Sh1 (1440) TCTTGCCAGTTACAGCTGACCTTATTGGCTGGAACCCACGATGATGAT  
 Sus1 (1420) TCGTGCCAGTTACCACTGACTTGTATGGAATGAACCATGCGGATGCTGCT  
 Sus3 (1358) TCTTGCCAGTTACCTGCTGATATATTGCTATGAACCAATGCTGATTTGAT  
 Consensus (1451) TC TGCCAGTTAC GCTGAC T ATTGC ATGAACCATGCGGATTTTCAT

1550

Sh1 (1490) CATCACCAGCACATTCCAAGAARTGCGGGAAGCAGGACACCGCTGCTG  
 Sus1 (1470) CATCACCAGTACCTTCCAAGACATCGCGGAACACAGGACACCTGCTG  
 Sus3 (1408) CATCACCAGCACATACCAAGAAATTCGGAAGCAAAATACTGTTGGA  
 Consensus (1501) CATCACCAGCACATTCCAAGAARTGCG GGAAGCAGGACACCT GG C

Figure 9c

		1551		1600
Sh1	(1540)	AGTACGAGTCCCATATCGCTTCAGCTTCTGGCTCTAGCGTTCCT		
Sus1	(1520)	AGTACGAGTTCACATCGCGCTTCAAGGCTGCTCTGATGACCTG		
Sus3	(1458)	AGTATGAGAGTCAATCTGCTTATCTGCTGCTGTGTATGACGAGT		
Consensus	(1551)	AGTACGAGTC CATAT GCGTTCACTGCTGGT CTGTACCG GTTGTG		
		1601		1650
Sh1	(1590)	CATGGCATCGATGTTTTCATCCCAAGTTCACAGTTCCTCTCTGAG		
Sus1	(1570)	CATGCGCATTCATGTTCTGTCGCCCAAGTTCAGACCTCTCTCTGAG		
Sus3	(1508)	CATGGCATCGATGTTCTTCATGCAAGTTCATTAATGATGATGAG		
Consensus	(1601)	CATGGCATCGATGT TTGATCCCAAGTTCACAT GTCTCTCTGAGG		
		1651		1700
Sh1	(1640)	AGACATGAGTCTTACTACCGTTTATCGCAATCTCTCTCTCTCTCT		
Sus1	(1620)	CGACCTGTCCATCTACTTCCGCTTCTCCGAGTCTCTCTCTCTCTCT		
Sus3	(1558)	TACATGTTCATATAATGATCTCTCCGAGAGGCGCATCTCTCTCTCT		
Consensus	(1651)	GACATGTCCAT TACTTCCC TATACCGAGACGGACAGAGATCACT		
		1701		1750
Sh1	(1690)	CGTTCATCTGTGAAGTTCAGAGCTCTCTCTCTCTCTCTCTCTCT		
Sus1	(1670)	CCCTATCCCGGAGTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCT		
Sus3	(1608)	CGTTCATCTGTGAAGTTCAGAGCTCTCTCTCTCTCTCTCTCTCT		
Consensus	(1701)	CCCTTATCTGAAATCGAGAGCTCAT TACAGCA CGAGAAC C		
		1751		1800
Sh1	(1740)	AGACATGAGTCTTACTACCGTTTATCGCAATCTCTCTCTCTCTCT		
Sus1	(1720)	CGACCTGTCCATCTACTTCCGCTTCTCCGAGTCTCTCTCTCTCTCT		
Sus3	(1658)	TACATGTTCATATAATGATCTCTCCGAGAGGCGCATCTCTCTCTCT		
Consensus	(1751)	GACACAGAGTCTGTTCTGAA GACAGGAA AAGCC ATCATCTTCTCCAT		
		1801		1850
Sh1	(1790)	CGCT		
Sus1	(1770)	CGCT		
Sus3	(1708)	CGCAAGATCTCGAGAGCTCTCTCTCTCTCTCTCTCTCTCTCTCT		
Consensus	(1801)	GCC GTCTCTGACC GTGAAGAACATGACAGGGCTGTGTGAG TGTAC		
		1851		1900
Sh1	(1840)	CGCAAGATCTCGAGAGCTCTCTCTCTCTCTCTCTCTCTCTCTCT		
Sus1	(1820)	CGCAAGATCTCGAGAGCTCTCTCTCTCTCTCTCTCTCTCTCTCT		
Sus3	(1758)	CTAAGTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCT		
Consensus	(1851)	CGAAGAACGCGCGCTGAGGAGCTGTGAACCTCGTGGTCTGTGCCG		
		1901		1950
Sh1	(1890)	GACCATGG -- CAAGGATCTCTCTCTCTCTCTCTCTCTCTCTCT		
Sus1	(1870)	GACCATGG -- CAAGCTCTCTCTCTCTCTCTCTCTCTCTCTCTCT		
Sus3	(1858)	TACATGTATGTCTCAAGAGTCTCTCTCTCTCTCTCTCTCTCTCTCT		
Consensus	(1901)	GACCATGG CAAC AGTCCAAGGACGGAGGACGAGGCGGAGTTCAA		
		1951		2000
Sh1	(1937)	GAAGATGTATCAGCTCATCTGACGAGTAAAGCTCTCTCTCTCTCT		
Sus1	(1917)	GAAGATGTATGACCTCATCTGACGAGTAAAGCTCTCTCTCTCTCT		
Sus3	(1858)	GAAGATGTATGACCTCATCTGACGAGTAAAGCTCTCTCTCTCTCT		
Consensus	(1951)	GAAGATGTATGACCTCATCTGAG AGTAACTTGAACGGCA ATCCCT		
		2001		2050
Sh1	(1987)	GGATCTCTGCGCCAGATGAACCGTCTGCGCAACGGCTGATCTCTCT		
Sus1	(1967)	GGATCTCTGCGCCAGATGAACCGTCTGCGCAACGGCTGATCTCTCT		
Sus3	(1908)	GGATCTCTGCGCCAGATGAACCGTCTGCGCAACGGCTGATCTCTCT		
Consensus	(2001)	GGATCTCT GCGCCAGATGAACCG GTCCGCAACGGCGAGCTGATCCGCTAC		
		2051		2100
Sh1	(2037)	ATTTCGATACCAAGGGCGCATTCGTCGAGCGTCTCTCTCTCTCTCT		
Sus1	(2017)	ATTTCGATACCAAGGGCGCTCTGTCGAGCGTCTCTCTCTCTCTCT		
Sus3	(1958)	ATTCGTCATACCAAGGGCGCTCTGTCGAGCGTCTCTCTCTCTCTCT		
Consensus	(2051)	ATTTCGATACCAAGGGCGCTCTGTCGAGCGTCTCTCTCTCTCTCT		

**Figure 9d**

Sh1 (2087) 2101 CCGCTGACTGTGATCGAGTCATGACGCTCGGTCCTGCCAAGCAAGGAA  
 Sus1 (2067) CCGGCTGACGGTGGTTGAGGCCATGACCTCGGCTGCCACGTTGGGCH  
 Sus3 (2008) CGGCTCACCCTCTTTGAGGCCATGACCTGTGGGCTCTTCTGAGGCTG  
 Consensus (2101) CGG CTGAC GTGGTTGAGGCCATGACCTGCGG CTGCC ACGTTCCGGA  
 2151 2200  
 Sh1 (2137) CCGCATGGCGGCCCTCTGACATCATCTGCGACGGGTATCTGGGCG  
 Sus1 (2117) CCGCTTACGGCGGTCGGGCGCAGAGAGATCTGTGAGGCGCTGTGCTGGATAC  
 Sus3 (2058) CGCTCCATGGAGGTCCAGCTCTATATAGACATGGGATCTGGGCTG  
 Consensus (2151) CC CCATGGCGGTCC GCTGAGATCATCTGTGACGGCGT TCTGGCTTC  
 2201 2250  
 Sh1 (2187) CACATTGACCCCTTACCACAGCGACAAGGC CGGGATATCTGAGGAACT  
 Sus1 (2167) CACATCBACCCTTACCAGCGCGACAGAGCGGTGGCCCTGATCTGAGGCT  
 Sus3 (2108) CACATTGACCGTACCACCCCGACACAGGCTTATATCGAAAGCTCTAT  
 Consensus (2201) CACATTGACCCCTTACCAC GCGACAAGGC CGGGATCTGCTGGTCGACT  
 2251 2300  
 Sh1 (2237) ATTTCGATAGAGGAGGAGGCTTCTGAGTCTGAGAGGCTGAGGCTG  
 Sus1 (2217) ATTTCGAGAGGAGGCGGCGGCTGAGTCTGAGAGGCTGAGGCTG  
 Sus3 (2158) ATTTCGAGAGGAGGCGGCGGCTGAGTCTGAGAGGCTGAGGCTG  
 Consensus (2251) CTTGCAAGTGCAGAGGCAGA CCGAGCACTGGG CAAGATCTC CAGG  
 2301 2350  
 Sh1 (2287) GAGCTCTGAGAGATTTCTGAGGCTGAGGCTGAGGCTGAGGCTG  
 Sus1 (2267) GAGCTCTGAGAGATTTCTGAGGCTGAGGCTGAGGCTGAGGCTG  
 Sus3 (2208) CAGGCTGAGGCTGAGGCTGAGGCTGAGGCTGAGGCTGAGGCTG  
 Consensus (2301) GCGGGCTGCAGCG AT TA GAGAAGTACACCTGGAAGCT TACTC GAG  
 2351 2400  
 Sh1 (2337) GAGCTCTGAGGCTGAGGCTGAGGCTGAGGCTGAGGCTGAGGCTG  
 Sus1 (2317) GAGCTCTGAGGCTGAGGCTGAGGCTGAGGCTGAGGCTGAGGCTG  
 Sus3 (2258) GAGCTCTGAGGCTGAGGCTGAGGCTGAGGCTGAGGCTGAGGCTG  
 Consensus (2351) AGGCTGATGACCTTGACCGGCTGTACGGTTCTGGAAATACGTGTCCAA  
 2401 2450  
 Sh1 (2387) GAGCTCTGAGGCTGAGGCTGAGGCTGAGGCTGAGGCTGAGGCTG  
 Sus1 (2367) GAGCTCTGAGGCTGAGGCTGAGGCTGAGGCTGAGGCTGAGGCTG  
 Sus3 (2308) GAGCTCTGAGGCTGAGGCTGAGGCTGAGGCTGAGGCTGAGGCTG  
 Consensus (2401) CCTGGAGAGGCGCGAGACCGCGCTACCT GAGATGTTCTACGC CTGA  
 2451 2500  
 Sh1 (2437) AGTACCGTACGCTTGGCAAGGCAAGGCTTGGGATTTCTGCTCTTTC  
 Sus1 (2417) AGTACCGCACTAGGCGGAGCAAGGCTTGGGATTTCTGCTCTTTC  
 Sus3 (2358) AGTACCGGAGCTTGGCAAGACCGTGGGCTTGGGATTTCTGCTCTTTC  
 Consensus (2451) AGTACCGCA CTTGGCGAGCACCGTGGCGCTGGCC T GA G AG  
 2501 2550  
 Sh1 (2481) TACGGGGAAAGAAAGAGG-AGAAGAGAGAGAGGCTTGGGAGGCTT  
 Sus1 (2461) GAGGCTCTGAGCAAGGTGA-TGGGTGAGCGCGCCACAGAGGCTGATC  
 Sus3 (2408) TAGCTTGGCAACTGCGACTGCGTAGCACTTGGTACAGAGATGTAACCT  
 Consensus (2501) TAGC GC AGAA G GA TGCCTAACA GGCACAGGCCTGA G  
 2551 2600  
 Sh1 (2525) AACCATCGCTGCATTTTCGATCTTTCGACCGCAATTCGCTG  
 Sus1 (2507) ATCGATGAGCGAGAGGGAGCACTCGGA GTCTGCTGTTTTCGCTG  
 Sus3 (2458) AAGGACCTTCAGTAATTAGGCGCGGAGACGCTAGCAATATAATGCTG  
 Consensus (2551) AACGATC C G A TT G CTGG GT GTCA CAATTCCG

Figure 9e

		2601		2650
Sh1	(2565)	ATTGTTATGTCGCTATTGGAGTTATCTG--TACTTGGTTTGCAGACTCT		
Sus1	(2551)	TTGCCATTCTGTTCTTTCTTCTTTTTC--TTGCCGAGAGCGGAAATGA		
Sus3	(2508)	CGAGCTTGAACTGGTTTCTATTATGTACATAAGCGCCGATCTCTGAA		
Consensus	(2601)	TG TGCT TG TTT TT TTATGT TACT GGAGTC AA AAAAT		
		2651		2700
Sh1	(2613)	TGCTTCTCTTCTCTTTTCTTCTCTCTGAGAGCTTTTGGGAGCCGCG		
Sus1	(2599)	AGAGTCTTGCTTTTCTGAGAGCGGCGGCGCTTTTGGAGCTCTTTTTC		
Sus3	(2558)	TACTGAAGCGAGTGGCGTTGCACTGTGTGTCTTTGCAAACTCTG		
Consensus	(2651)	TG TTC TGCT GTTG TTG CGTTGTGTGTTCTGT CTG C GCT		
		2701		2750
Sh1	(2663)	GCCTGGTCTCCAGTATCGTGGAATTGGGTGCTTTTGCTTCTGAATA		
Sus1	(2647)	CGAGAGTGAATAATTTACCTAC--TTGTAAGGTCTTGCTGATCTCTG		
Sus3	(2600)	TACTGTATTGCGCAGACTGTG---GGCTGGAATCTTGTGCTGG-C		
Consensus	(2701)	ACTGGTT ATATTAGCTG C TTGGCTGCA CTT TTC TGA T A		
		2751		2800
Sh1	(2713)	TAATCTCTCTTGCTCCCTCTTCTCCGAGCTC		
Sus1	(2695)	TCGGGTCTTGCTGAGTATGCTGCTCTTCTAGTGGTTCTGTTG		
Sus3	(2644)	TCGCTGCTGCTGAGGGAAGTGTCTGTAATGACATCTCTTTGAC		
Consensus	(2751)	A C GC GGC CTGTG GTCTGATAGA T T TA T TG C		
		2801		2850
Sh1	(2747)	-----		
Sus1	(2745)	GTCGTTGCTGCGGGGACGTTGGTGGTGGTGGTGTCTTTCAGTTAGGCT		
Sus3	(2694)	TGTGAAAAAATAAATAAAAAAAAAAAAAAAAAAAGCGGCC		
Consensus	(2801)	G A A AA A G G G C		
		2851		2900
Sh1	(2747)	-----		
Sus1	(2795)	GGTGCTCCCTTTGTTCTCGATGGGATGTTGCTCCTTGAATAATAATCG		
Sus3	(2738)	-----		
Consensus	(2851)	-----		
		2901		2950
Sh1	(2747)	-----		
Sus1	(2845)	TAGTGGCCTTGGAGCCCTTTTCTGAAATAAGAGCAGCATCTTAGTGCTT		
Sus3	(2738)	-----		
Consensus	(2901)	-----		
		2951	2964	
Sh1	(2747)	-----		
Sus1	(2895)	ACCTTTGCAGCTGT		
Sus3	(2738)	-----		
Consensus	(2951)	-----		

Figure 9f

CGCCAGTCGCCAGTCGCCACAGCCACACCACCACTAGCCGCGGCCGCGGGTAGGAG  
CGCGCGCGGCCGCGGCGGAACGACCCACCGGTGGCGGCAGCCATGCTGCCCGAAGCTGA  
ACCGCAACGCGAGCATCCGGGACCGCGTCGAGGACACCCTCCACGCGCACCGCAACGAGC  
TCGTCGCCCCCTCCTCTCCAAGTACGTGAACAAGGGGAAGGGCATCCTGCAGCCGCACCACA  
TCCTCGACGCGCTCGACGAGGTCAGGGCTCCGGGGTCCGCGCGCTCGCCGAGGGACCCT  
TCCTCGACGTCTCCGCTCCGCGCAGGAGGCGATCGTGCTGCCGCCG

**Figure 10**



**Sorghum sequence from SEQ ID NO: 13 in SEQ ID NO: 11**  
 ATGTCTCCCGCAAGCTGAACCGCAACCGCAGCATCCGG

**Maize sequence from SEQ ID NO: 1 in SEQ ID NO: 11**

accgcgctcga	ggacacccctc	cacgcgcacc	gcaacgagct	60
cgctgcacctc	ctgtccaagt	acgtgaacaaa	ggggaagggc	120
ctcgacgcgc	ctgcacgagg	tccagggctc	cggggccgcg	180
ctctgcagctc	ctccgctcgc	cgcaggaggc	gatcgctgct	240
ggctgcgcgc	gcgccgggag	tttgggagta	cgctccgcgc	300
cgagacgcct	acagttctcg	agtaacctcc	cttcaaggag	360
caatgacctc	taogttctcg	agcttgactt	cgagccgctc	420
aaatcgggtc	tcattctatt	gaaacggtgt	gcagttccct	480
catgtctcgc	aacagggatt	gcttggagcc	ccctgttgat	540
caagggggcat	gttatgatgc	ttaatgatag	aatacaaaag	600
gctgaccaaa	gctgaggagc	acttgctcaa	gctccctgct	660
tgcttataaa	tttcaagagt	ggggccttga	gaaagggttg	720
tttgaaatg	atccatctcc	ttctagacat	cattcaggcg	780
gaaattctgt	gggaggatcc	ccatgatttt	taacgttgtt	840
ctttggtcaa	gcgtaatgat	taggcttgcc	agacacagga	900
ggaccaagtc	cgctgactag	aaaatgagat	ggttctccgt	960
catattttgg	aagaattctca	ttgttactcg	gctgatacca	1020
caatcagcgc	cttgagagaa	ttagtggaa	acagcactat	1080
cagaaatgaa	aatgggatac	ttagaataatg	gatatcaaga	1140
ggaaacattt	gctgaggatg	ctgctggtga	aattgctgct	1200
cttctataat	ggaaactaca	gtgatggaaa	tcttggtggc	1260
gggaattacc	cagtgcaaca	ttgctcatgc	tctgaaaaag	1320
catattttgg	aagaattctcg	atgagaagta	ccattctccc	1380
aattgctatg	aacaatgctg	attttatcat	caccagcaca	1440
caaaaaatct	gttggacagt	atgagagtc	tactgccttt	1500
agttgtccat	gggatcgatg	tcttgatccc	aaagttcaat	1560
catgtccata	taacttccac	ataccagaaa	ggccaagcga	1620
aatcgaaat	ttgatttatg	accgcgagca	aaacgatgaa	1680
ccggtcaaa	cccatcctct	tctccatggc	aagactcgac	1740
gtgctgcgaa	gcttttgcta	agtgcgctaa	gctgagggag	1800
tgccgggtac	aatgatgtca	acaagtccea	ggacagggaa	1860
gatgcatag	ctcatcaaga	cccacaactt	gttggggcag	1920
gacaacagcg	gcccgtaacg	gcgagctcta	tcgtacatcc	1980
gtgtctctac	gccttgatg	aagcgttcgg	tctcacccgc	2040
ggtctctacc	ttgcgcagcg	tccatggagg	tcacgtcgag	2100
ggcctctccac	attgaccogt	accaccccg	acaggctgtt	2160
cgaccggctgc	aagcaagacc	cagatcactg	ggatgaatata	2220
catatacag	aagtacacat	ggaagatata	ctcagagagg	2280
ctacgggttc	tggaagtacg	tgctgaagct	cgagaggctg	2340
gatgtctctac	atactgaagt	tcgcgagact	ggcgaagacc	2400
accgcagtag	cttcgcgaac	tcgcgactcg	tagcacttgg	2460
gacctctcagt	aattttaggcg	cgcgcagacg	tagccaataa	2520
gtgtttttat	atgtacataa	tgccagatata	acaaaattac	2580
ttgtgtgtct	gttactgttt	actgtattat	gtcaacgtgt	2640
gcaagccgca	ggcactgggt	aagtgctgat	aaatacatca	2700
aaaaaaaaaa	aaaaaaaaaa	aaaaaaaaag	cgccgcgt	

Figure 11